

WHAT IS CLAIMED IS:

1. A multi-layer expansion-molded article of a polypropylene resin, which is obtained by molding a multi-layer parison comprising a foamed resin layer and a resin layer provided on the outer side of the foamed resin layer in a mold in such manner that at least part of the opposed inner surfaces of foamed resin layer in the parison are fusion-bonded to each other, and has a polypropylene resin layer on the surface of a foamed polypropylene resin layer, wherein a melt tension, MT (gf) and a melt flow rate, MFR (g/10 min) obtained by measurement to a polypropylene resin forming the foamed resin layer in the expansion-molded article satisfy the following relationship (1), and a melt tension, MT (gf) and a melt flow rate, MFR (g/10 min) obtained by measurement to a polypropylene resin forming the resin layer on the surface of the foamed resin layer satisfy the following relationship (2) when the melt flow rate, MFR is at least 0.3 (g/10 min), or the melt tension, MT is at least 10 (gf) when the melt flow rate, MFR is not lower than 0.2 (g/10 min), but lower than 0.3 (g/10 min):

$$\log MT > -0.74 \log MFR + 0.66 \quad (1)$$

$$\log MT > -1.02 \log MFR + 0.47 \quad (2)$$

2. A multi-layer expansion-molded article of a

001080" 64662960

tail
H

Sub,
A,
Cont

$$\log MT > -1.02 \log MFR + 0.69 \quad (4)$$

3. The multi-layer expansion-molded article of the
25 polypropylene resin according to Claim 1 or 2, wherein
the thickness of the resin layer formed on the surface
of the foamed resin layer is 100 μm to 10 mm, and the

overall density of the expansion-molded article is 20 to 400 kg/m³.

4. The multi-layer expansion-molded article of the
5 polypropylene resin according to Claim 1 or 2, wherein
the area ratio of the fusion-bonded portion in the inner
surface of the expansion-molded article is at least 25%.

5. The multi-layer expansion-molded article of the
10 polypropylene resin according to Claim 1 or 2, wherein
the area ratio of the fusion-bonded portion in the inner
surface of the expansion-molded article is at least 60%.

6. The multi-layer expansion-molded article of the
15 polypropylene resin according to Claim 1 or 2, wherein
the area ratio of the fusion-bonded portion in the inner
surface of the expansion-molded article is at least 80%.

7. The multi-layer expansion-molded article of the
20 polypropylene resin according to Claim 1 or 2, wherein
the area ratio of the fusion-bonded portion in the inner
surface of the expansion-molded article is at least 95%.

8. The multi-layer expansion-molded article of the
25 polypropylene resin according to Claim 1 or 2, which
further has a skin layer formed of a synthetic resin on
the outer side of the resin layer.

Sub
H
Coulter

0962949-080100

9. A process for producing a multi-layer expansion-molded article of a polypropylene resin, which comprises co-extruding a foamable molten resin obtained by adding a foaming agent to a polypropylene resin whose melt tension, MT (gf) and melt flow rate, MFR (g/10 min) satisfy the following relationship (1), and melting and kneading the resultant mixture, and a molten resin obtained by melting and kneading a polypropylene resin whose melt flow rate, MFR (g/10 min) is at least 0.3 (g/10 min), and whose melt tension, MT (gf) and melt flow rate, MFR (g/10 min) satisfy the following relationship (2), or whose melt flow rate, MFR is not lower than 0.1 (g/10 min), but lower than 0.3 (g/10 min) and whose melt tension, MT is at least 10 (gf), thereby forming a multi-layer parison having a resin layer composed of the molten resin on the surface of a foamed resin layer obtained by expanding the foamable molten resin, and then molding the multi-layer parison in a mold in such manner that at least part of the opposed inner surfaces of foamed resin layer in the parison are fusion-bonded to each other to obtain an expansion-molded article having a polypropylene resin layer on the surface of a foamed polypropylene resin layer:

25 $\log MT > -0.74 \log MFR + 0.66 \quad (1)$

$\log MT > -1.02 \log MFR + 0.47 \quad (2)$

09629949-080100

10. A process for producing a multi-layer expansion-molded article of a polypropylene resin, which comprises co-extruding a foamable molten resin obtained by adding a foaming agent to a polypropylene resin whose melt tension, MT (gf) and melt flow rate, MFR (g/10 min) satisfy the following relationship (5), and melting and kneading the resultant mixture, and a molten resin obtained by melting and kneading a polypropylene resin whose melt flow rate, MFR (g/10 min) is at least 0.8 (g/10 min), and whose melt tension, MT (gf) and melt flow rate, MFR (g/10 min) satisfy the following relationship (6), or whose melt flow rate, MFR is not lower than 0.2 (g/10 min), but lower than 0.8 (g/10 min) and whose melt tension, MT is at least 10 (gf), thereby forming a multi-layer parison having a resin layer composed of the molten resin on the surface of a foamed resin layer obtained by expanding the foamable molten resin, and then molding the multi-layer parison in a mold in such manner that at least part of the opposed inner surfaces of foamed resin layer in the parison are fusion-bonded to each other to obtain an expansion-molded article having a polypropylene resin layer on the surface of a foamed polypropylene resin layer:

$$\log MT > -0.74 \log MFR + 1.14 \quad (5)$$

$$\log MT > -1.02 \log MFR + 0.90 \quad (6)$$

11. The production process according to Claim 9 or

00629949-080100

polypropylene
resin has an

5

15

20.

25